

PHENIX WEEKLY PLANNING



4/23/2009

Don Lynch

Next Maintenance Access Day - April 29

- Work Requests ?
- RPC Installation Gap 5 prep
- RPC Installation Crane Support measurements
- Other Work ?

TECHNICAL SUPPORT NOON

Shutdown '09 Major tasks (expect 5 month shutdown):

- 2009 shutdown Begins June 28
- End run, remove wall, MuID collars down, EC to AH (3 weeks)
- RPC Factory Operations (in progress and continuing beyond Shutdown '09)
- RPC Station 3 North (entire shutdown)
- Install Station 1 South scaffolding (1 week)
- Install Station 2/3 scaffolding (2 weeks)
- Install stations 1, 2 and 3 south MuTrigger FEE's (12 weeks)
- MuTr decapacitations: station 3 south (3 weeks)
- PC1 East repair (4 weeks)
- Mechanical/Electrical Plumbing installation of (4) new DCM racks
- Add Ar Dewar and expand gas pad to add storage (12 weeks)
- Prep for future upgrades/existing equipment maintenance & Repair (as necessary)

End of Run, Start of Shutdown

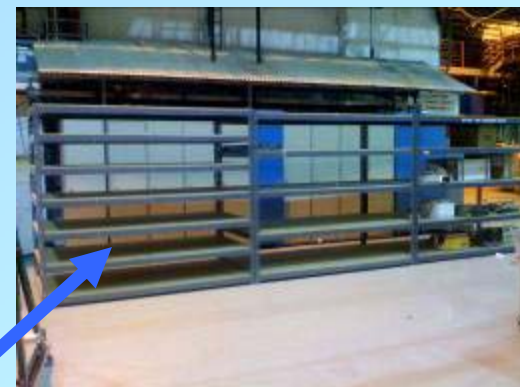
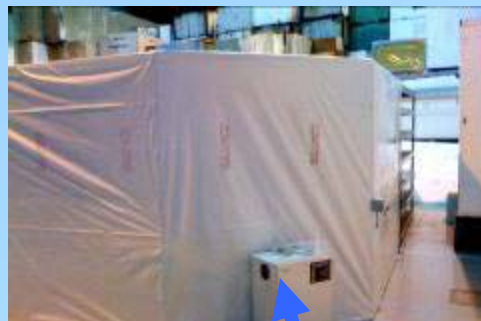
TECHNICAL SUPPORT NOON

- End of Run Party 6/26
- End of Run 9 6/28
- Flammable Gas Purge 6/30
- Open Wall and Disassemble 7/2
- MuID Collar Removal 7/8
- Move MMS South 7/10
- Disconnect EC and move to AH 7/17
- Move MuID Collars to AH 7/20
- Install IR floor plates, rolling cart & manlift in IR 7/22
- Reconnect EC for shutdown mode 7/24
- Remove East/West vertical & Upper Bias MMS lampshades 7/24

- Gap and Module assembly and testing (continues through shutdown) in-progress
- Gap and Module Storage with humidity control nearly complete
- Tilting transport Table 5/1
- Burn in test stand (Bike rack section) 5/15
- Burn-in test stand gas system and controls (ready for 1st half octant) 5/29
- Assembly of half-octants for station 3 north 6/1-9/1

TECHNICAL SUPPORT NOON

TECHNICAL SUPPORT ROOM



4/23/2009

Tilting Transport Table



Fabrication in progress



Concept approved at
C-A Design Review, with minor
corrections

RPC Factory Burn In Test Station For Octant and Half Octant Burn-in Tests



Design reviewed and approved. All mechanical components acquired and ready for assembly. Gas and control systems fabrication in progress. Will be ready before first half octant is assembled.

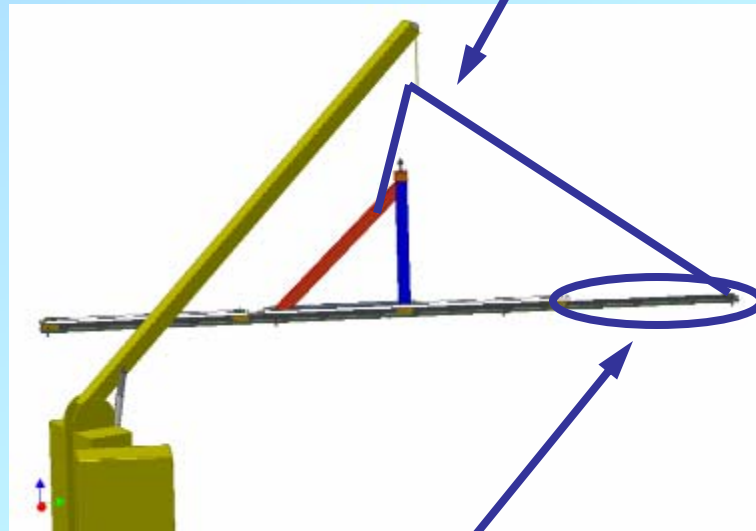
RPC3 North Installation Schedule

Installation Concept Finalized	Apr. 24
Half-Octant Brackets, Connecting Blocks, under detector translating support design	Apr. 30
Installation Fixturing and Tooling Design	May 15
Redesign crystal palace/IR Gas Barrier	May 29
End of Run 9	June 28
Fixturing/Tooling, Brackets/Block/support Fabrication	June 30
Move Shielding/Remove Crystal Palace	June 29-July31
Move cable trays and piping in gap 5	June 29-July 31
Simulated (practice) installation with new fixturing/ tooling	July 13-July 31
Install, level & survey support structure	Aug. 3 - Aug 14
Half Octant Testing and Assembly Complete (1 st half Octant ready by Aug.17, 16 th by Sep.18)	Aug. 17- Sep. 18
Mechanical Install Align & survey RPC3 N	Aug 17 - Sep. 30
Install 3 elect. Racks, all cables & gas system	Oct. 1 - Oct. 30
Commissioning	Nov. 1 - Nov. 30
Install new crystal palace/IR Gas Barrier & Shielding	Nov. 1 - Nov. 30
Start Run 10	Dec. 1

Installing the roller support structure is the first step of installation. The procedure for this step would go something like this:

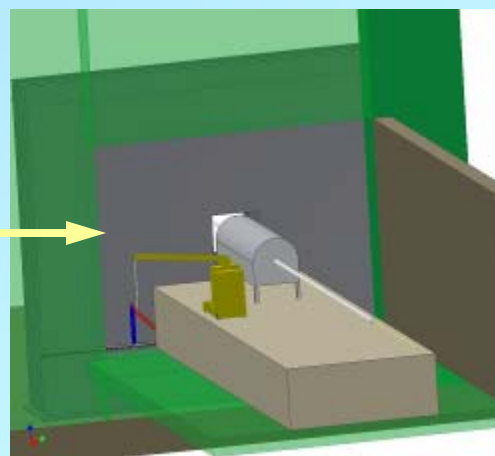
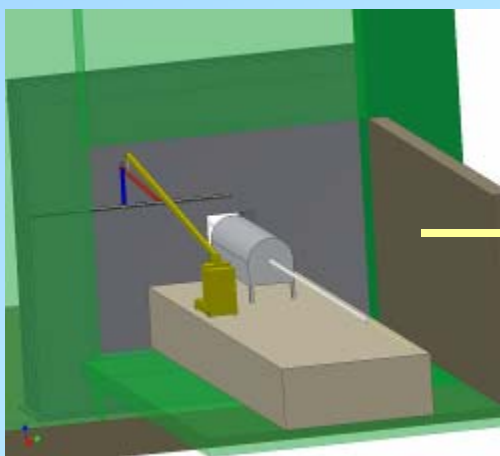
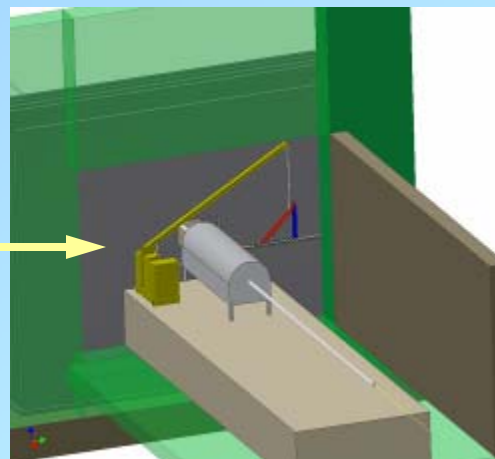
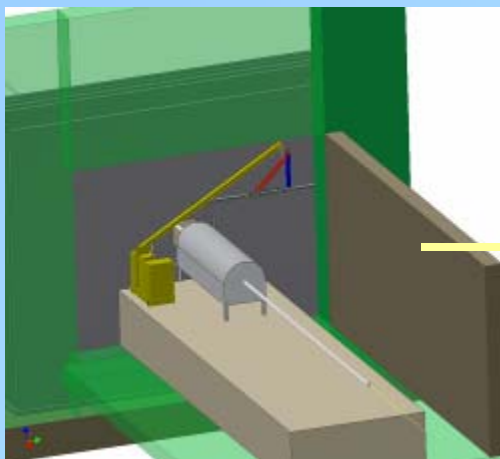
1.
 - a) Practice rigging and survey in factory with simulated gap 5
 - b) Pre-set 7 adjusting screws to 1st best guess.
 - c) Rig the west base (with rail, pillow blocks, carriage and columns) into place.
 - d) Using simulated half-octant survey scale obtain position error
 - e) Lift base, readjust leveling screws, repeat 2-4
2. Do the same for east base

Rigid fixture or sling needed to attach at IR corner end and to short column. Fixture must lift from slightly to the beam side so that base can be accurately repositioned from IR corner side. Sling must be remotely detachable from either IR corner or tunnel floor after base is permanently set.

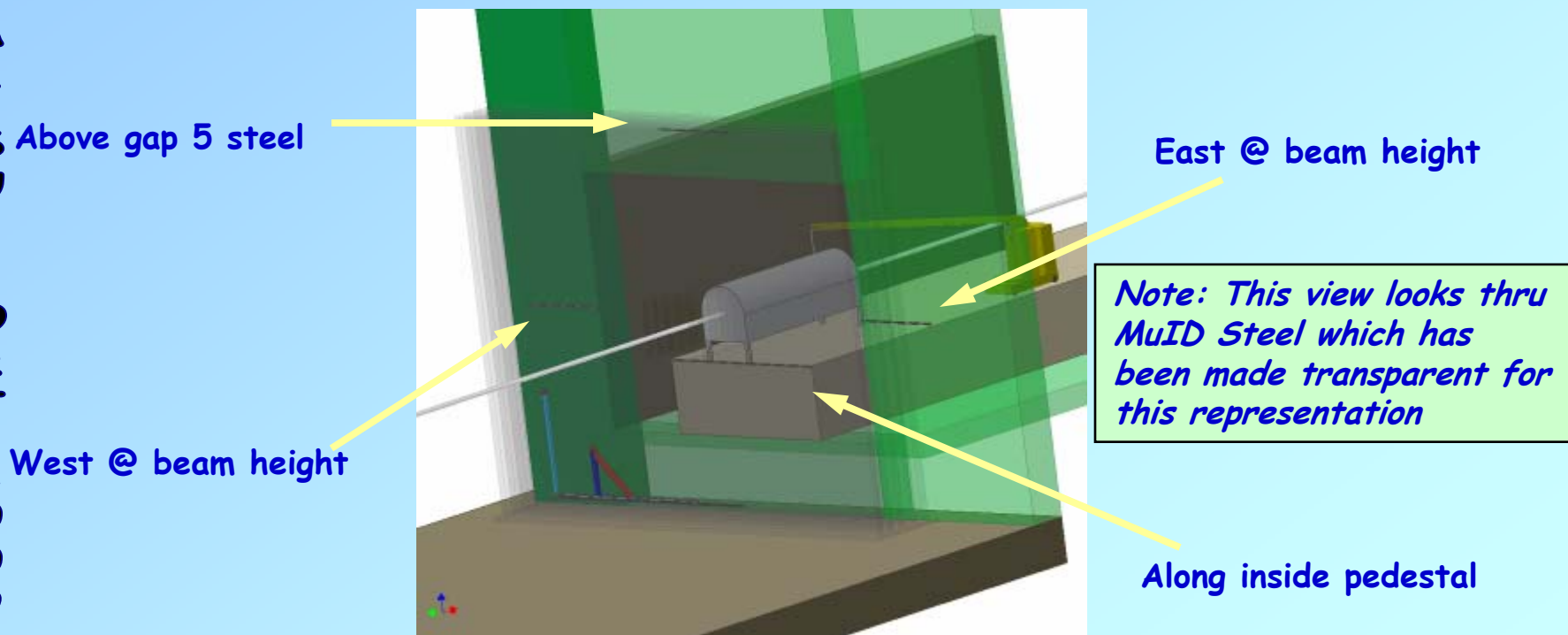


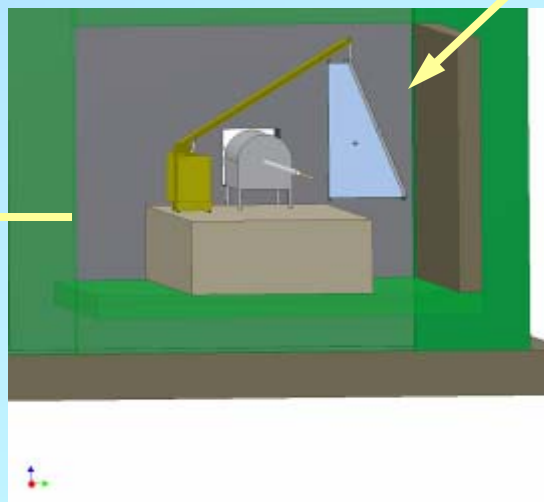
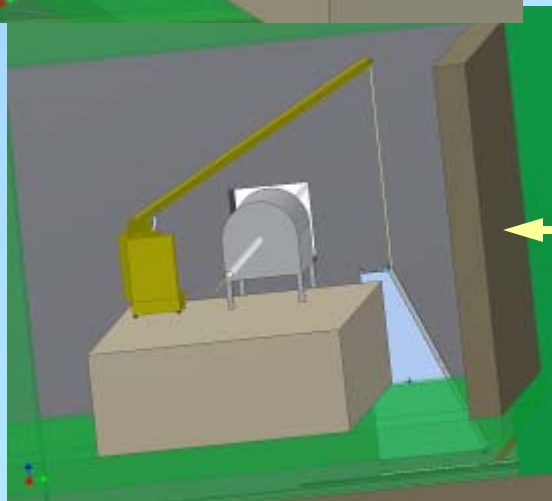
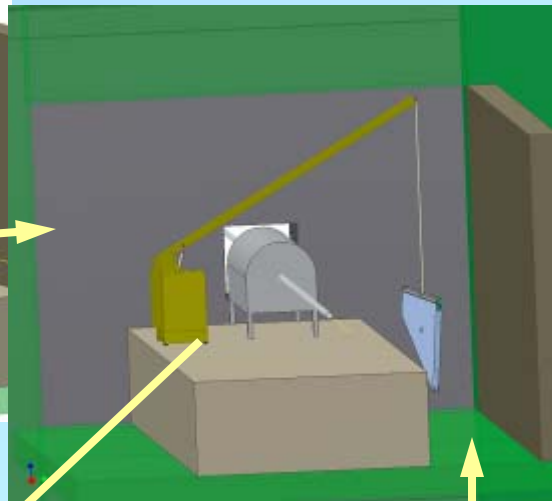
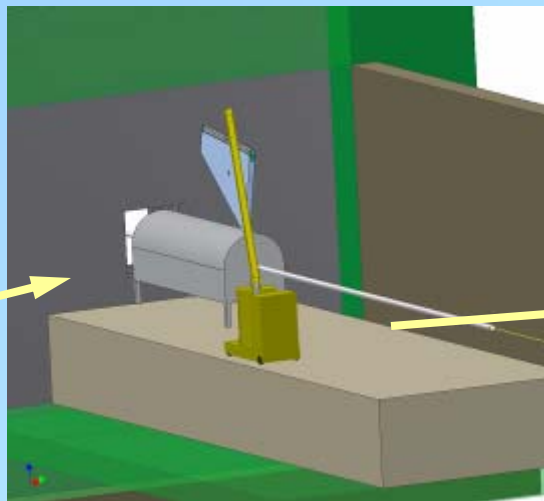
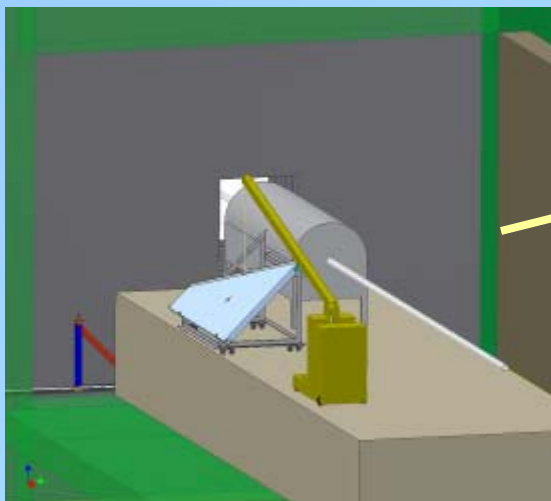
Fixture needs a bar in this location that locks slider in inner most position. Lock must be removable from far end floor level in IR

Install the west base
then the east base.



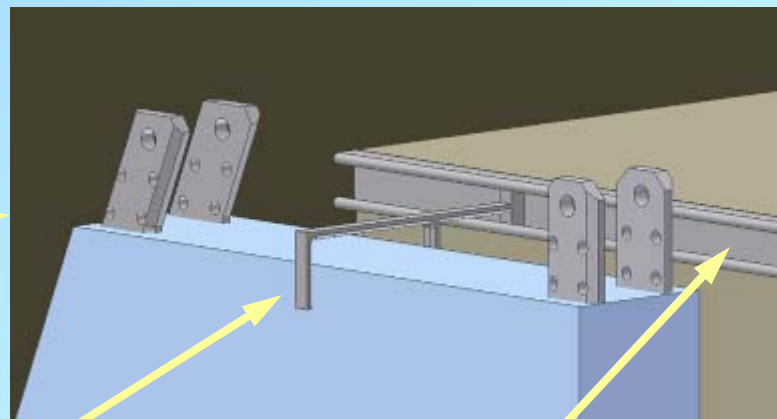
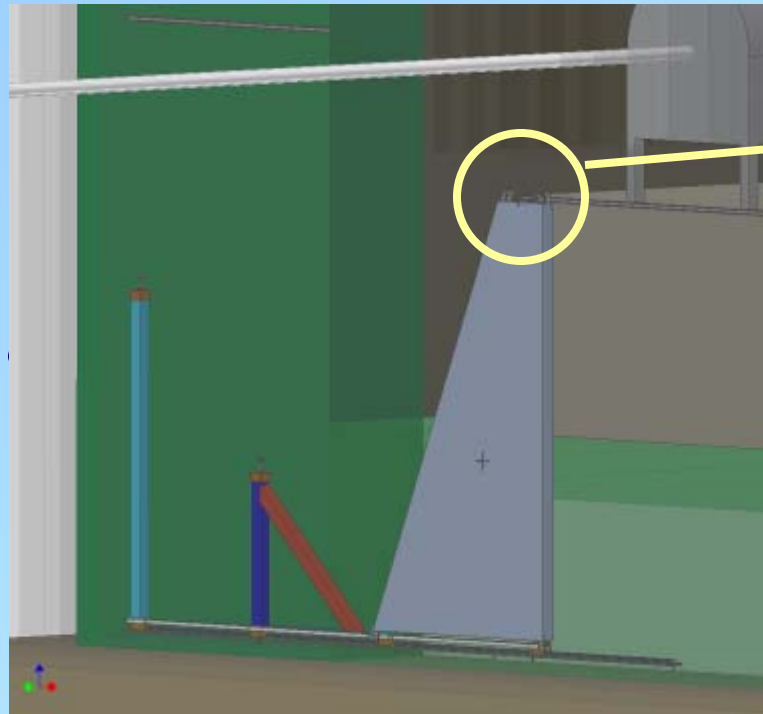
After the base support structures have been installed, Install the unistrut guide rails at the pedestal, above the gap 5 steel and at beam height levels. These rails will be used to prevent pitch rotation (about the horizontal axis perpendicular to the beamline [X-axis]).





A (TBD) cradle will be positioned in the west trench where the HO can be parked and the pick point shifted from horizontal to vertical

After HO1 west is installed, the clamp shown is used to keep the HO stable in the vertical configuration. Clamp is idealized actual clamp will have adjustments to align the pitch angle.



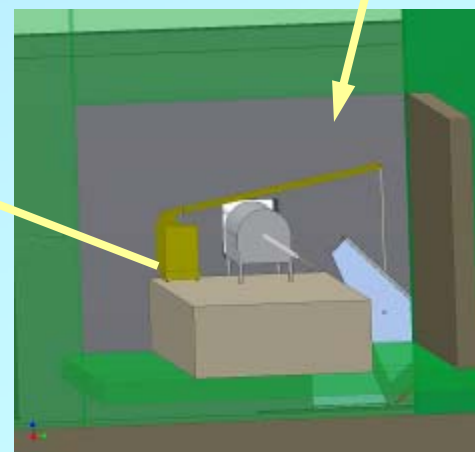
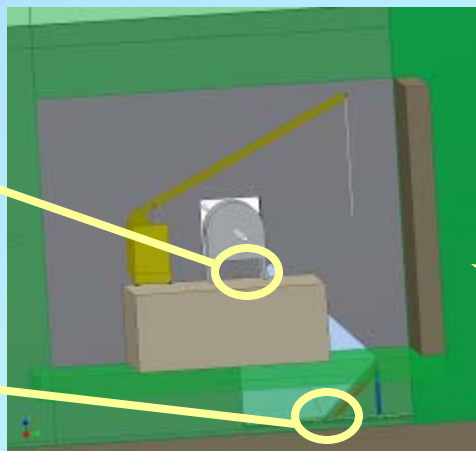
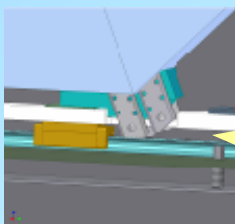
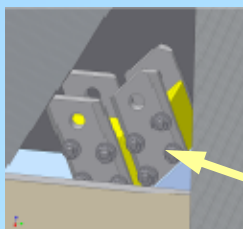
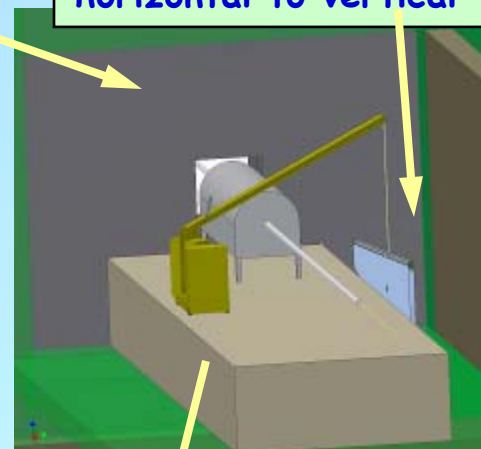
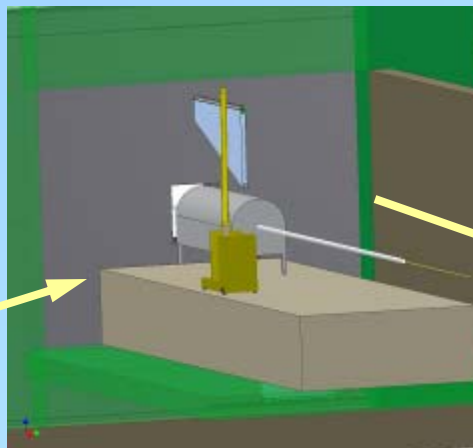
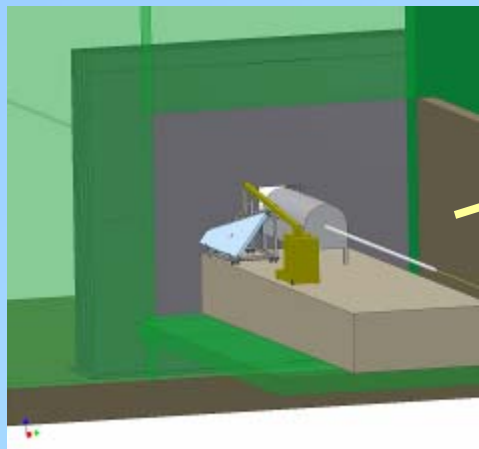
Clamp

Unistrut low profile rail

Note: These views look thru MuID Steel which has been made transparent for this representation

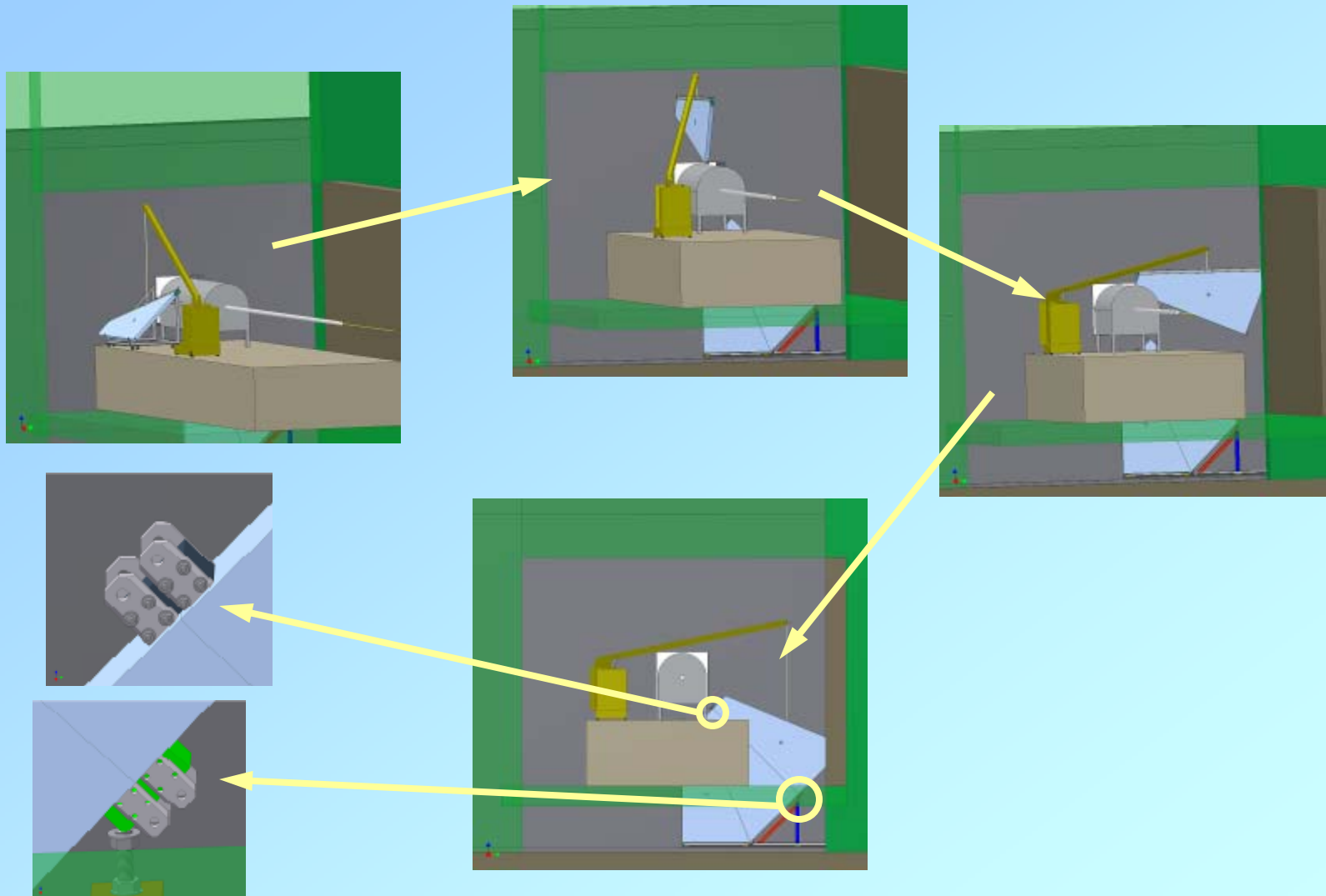
Half Octant West #2

A (TBD) cradle will be positioned in the west trench where the HO can be parked and the pick point shifted from horizontal to vertical

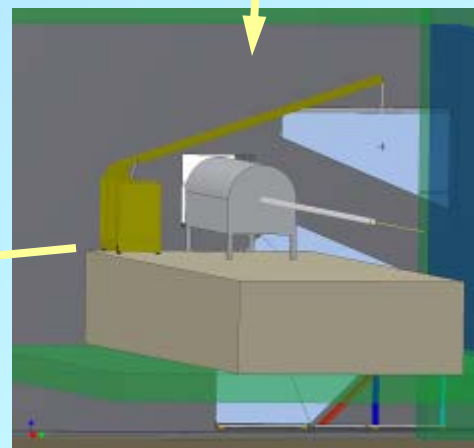
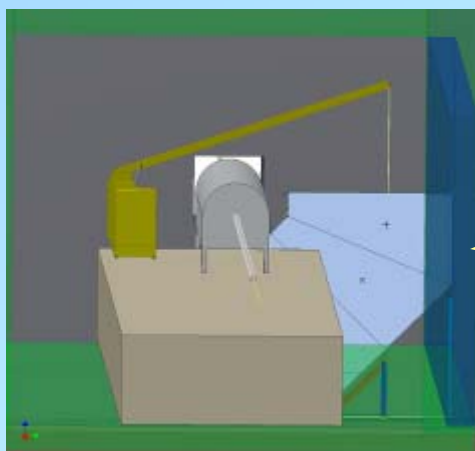
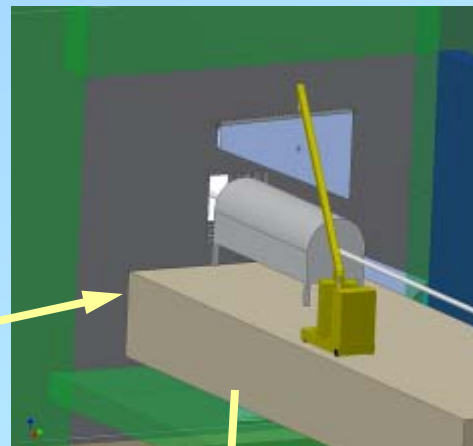
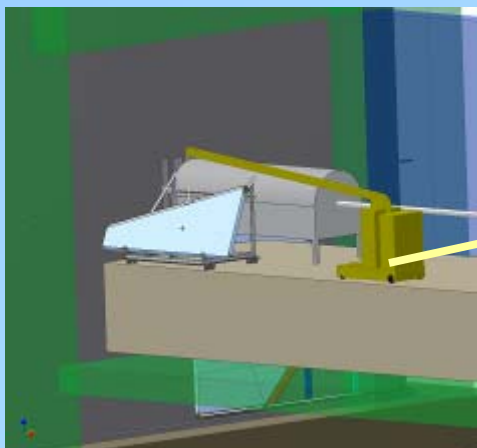


TECHNICAL SUPPORT NOON

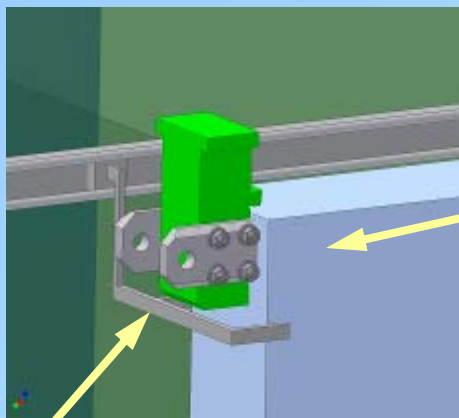
Half Octant West #3



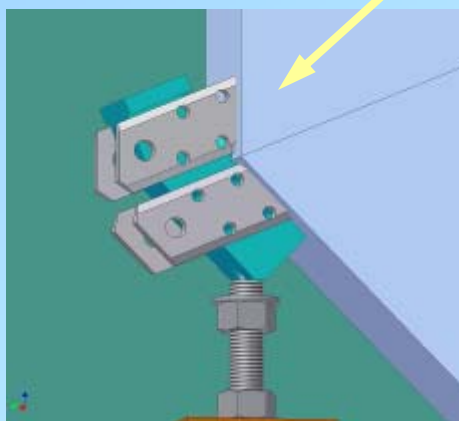
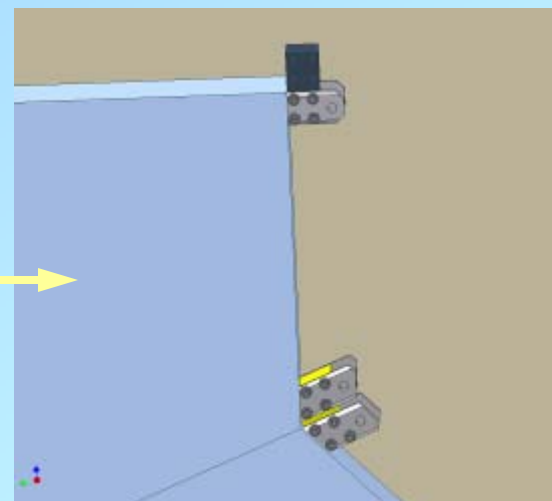
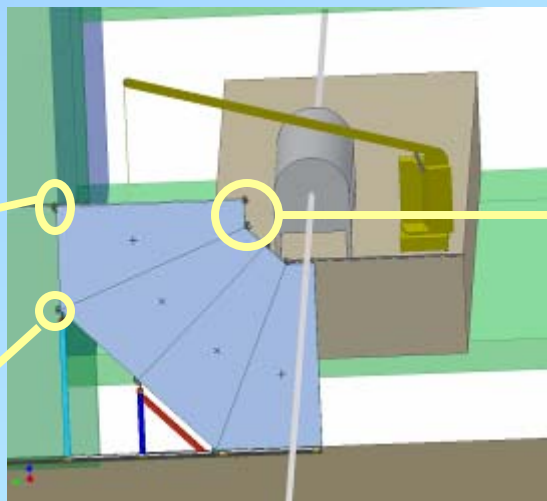
Half Octant West #4



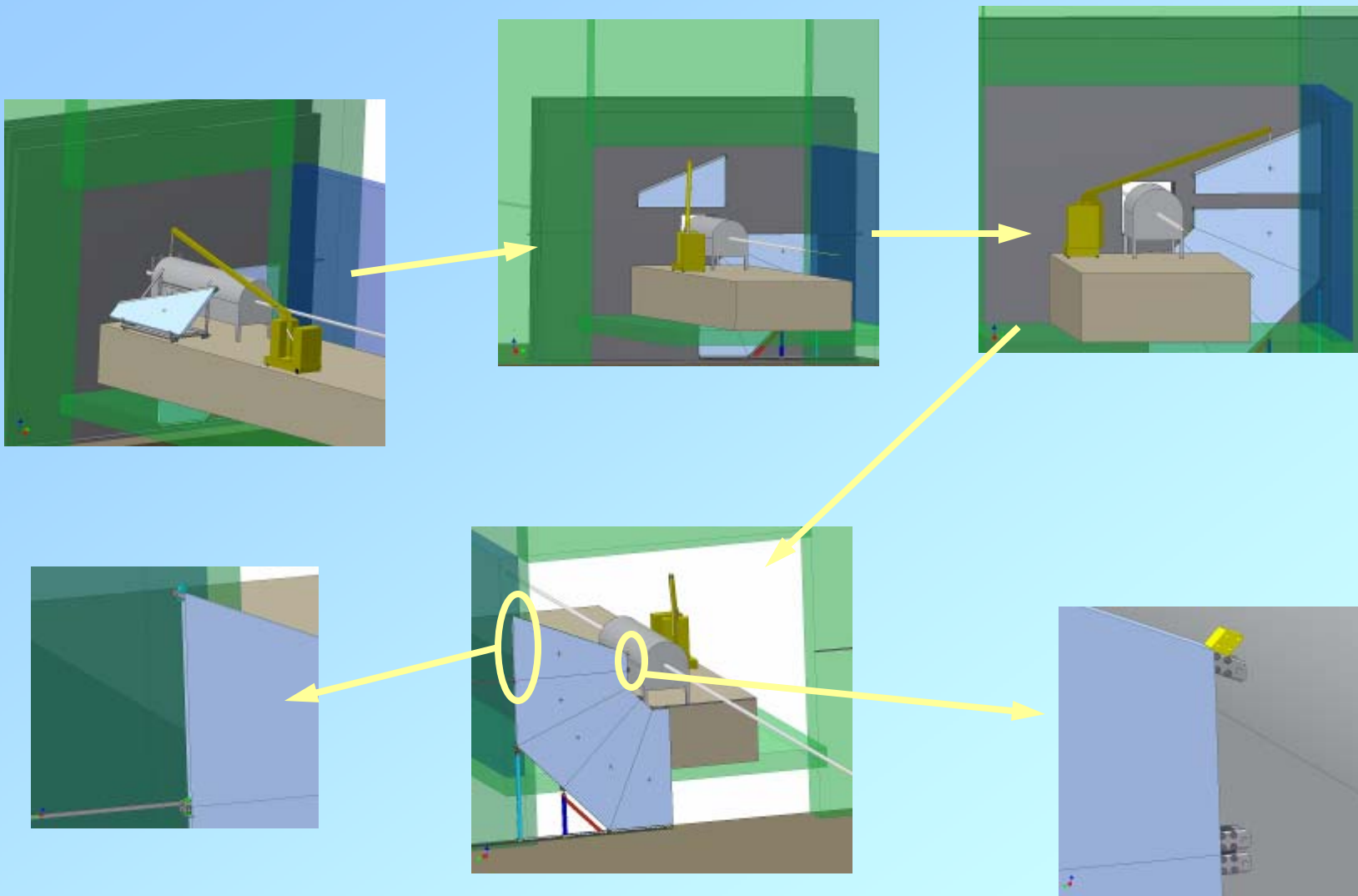
TECHNICAL SUPPORT NOON



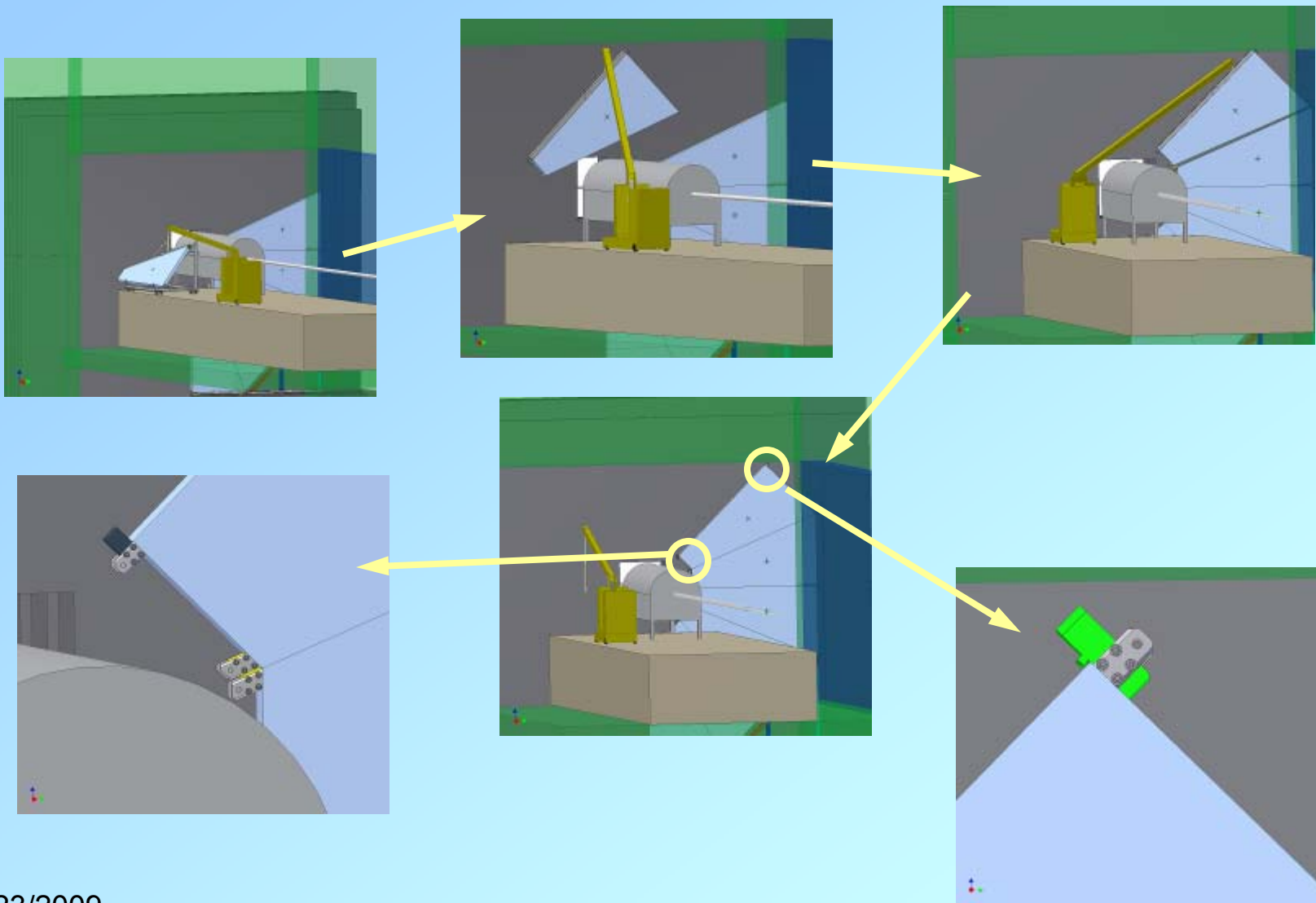
Sliding clamp



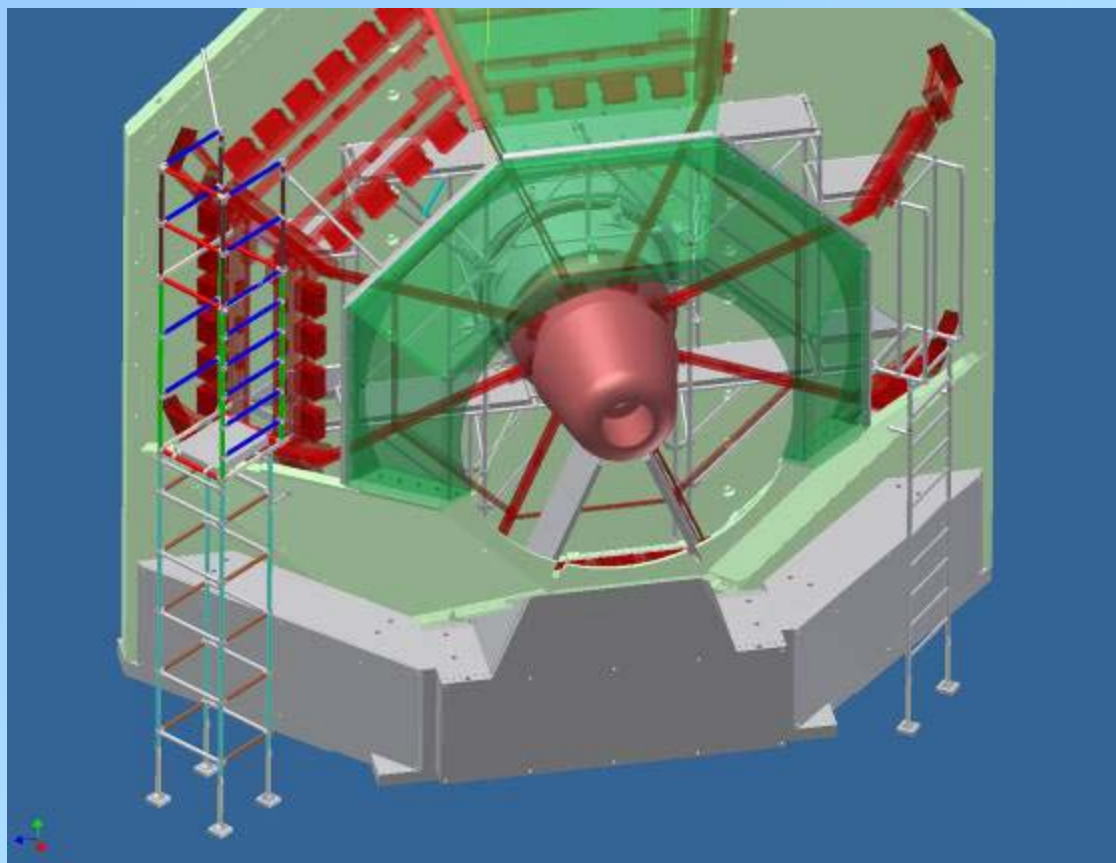
View looking thru MuID steel plates which have been made transparent. After HO_4 is positioned onto HO_3, inner angled connector at inner 3-4 joint is bolted, inner straight connector has been unbolted from lifting fixture and remains in place to accept HO_5. At outer face lower brackets have been locked into angled bracket at outer 3-4 joint and straight bracket remains in place to accept HO_5. West sliding base is slid west 60" and clamp is attached to the outer face of HO_4 and positioned to slide in the mid plane unistrut channel. After the clamp is attached slide the base back to the 0 position



TECHNICAL SUPPORT NOON



- Install Station 1 South Scaffold (carpenters) 7/31
- Install station 2/3 scaffolding (Techs) 8/14
- Install station 1 FEE's 8/28
- Install station 1 electronics and cable mngment 8/28
- Station 1 plumbing 9/11
- Install station 2/3 FEE's 9/25
- Install station 2/3 electronics & cable mngment 9/25
- Station 2/3 plumbing 10/9



Concept approved at
C-A Design Review

Met with Donna Dowling to discuss
Bargaining Unit negotiations

4/23/2009

MMS scaffolding

Designed for MuTr installation. Approved in 2000 for use. Stress analysis done for worst case. Current design has minor modifications.



MuTr Decapacitations

Station 2/3 Decaps

8/14-8/28

Testing/verification

9/4

TECHNICAL SUPPORT NOON

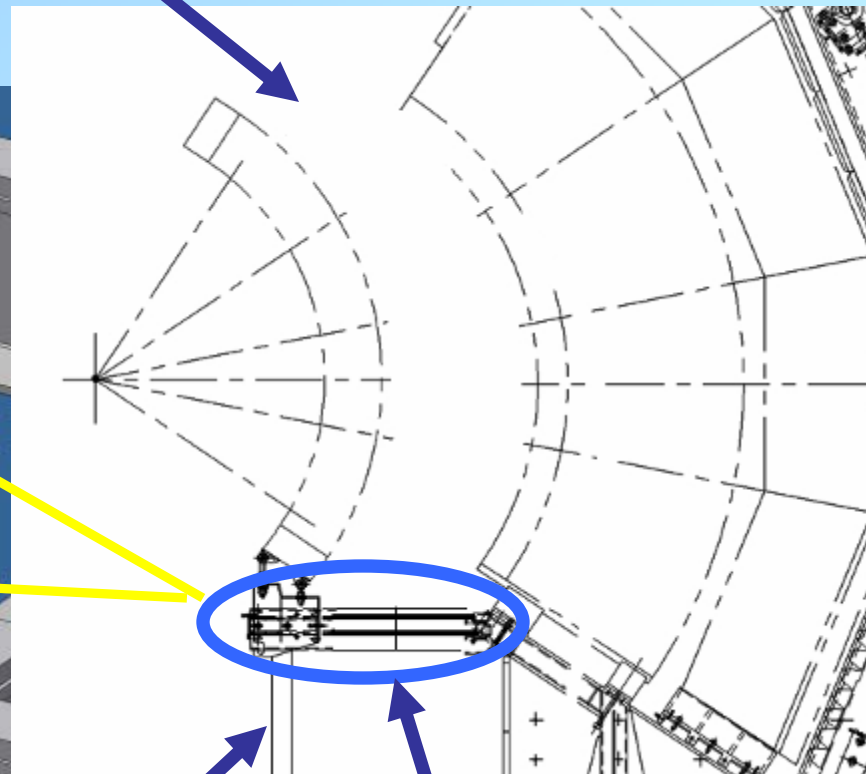
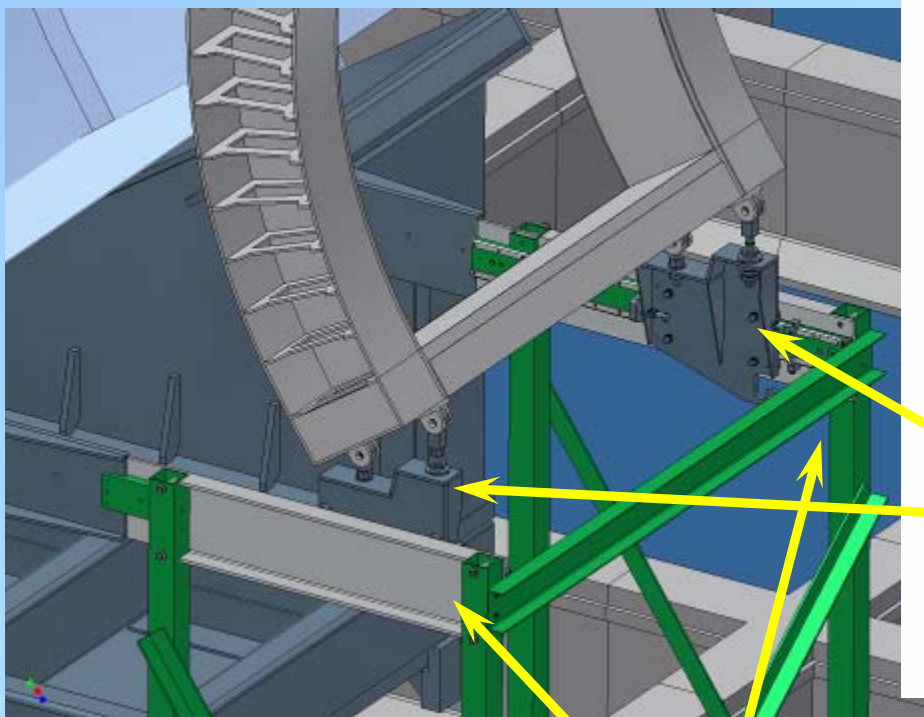
PC1 East Repair

- | | |
|---------------------------------|--------------------|
| • Design Repair support fixture | Done |
| • Review and approval | Done |
| • Fabrication | 7/1 (order placed) |
| • Install support fixture | 8/14 |
| • Remove cables and plumbing | 8/28 |
| • Roll out DC/PC1 | 9/4 |
| • Replace failed PC1 | 9/11 |
| • Roll DC/PC1 in | 9/18 |
| • Restore cables and plumbing | 9/25 |
| • Test/commissioning | 10/2 |

PC1 East Repair Fixturing Design

Repairs to be performed during '09 Shutdown

Access to PC1 is adequate to remove and replace module



Quote Rec'd from CS

New Column Supports Under railway extensions

New Railway extensions will allow DC to be pulled out ~ 3 feet more

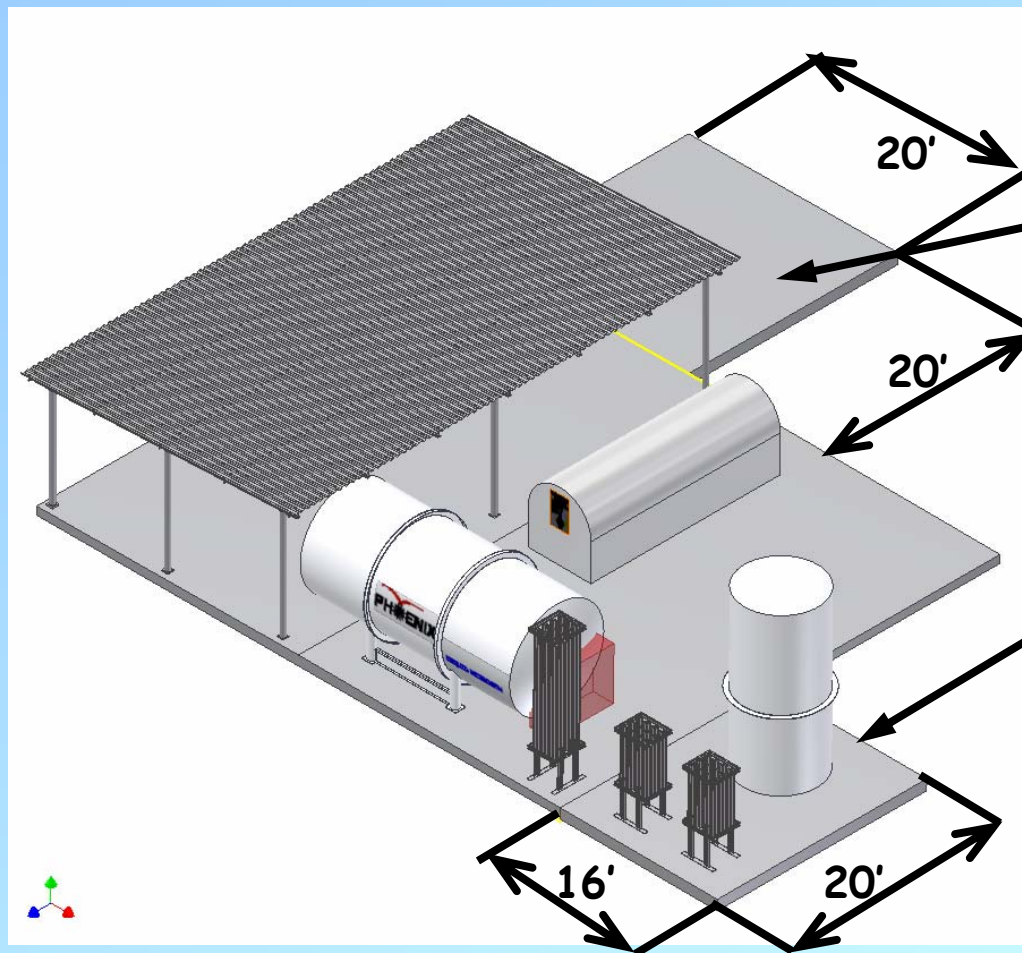
4/23/2009

- | | | |
|---|-----------------------|------|
| • | Proposal | Done |
| • | Review and Approval | 5/1 |
| • | Design | 6/1 |
| • | Site Preparation | 7/1 |
| • | Install Empties racks | 8/1 |
| • | Install Ar Dewar | 9/1 |
| • | Test and Commission | 10/1 |

(Rough guess actual schedule TBD)

New Argon Dewar

TECHNICAL SUPPORT NOOS



New storage pad for empty gas cylinders, 20'x 20', 9" min thick. reinforced concrete

New Argon Dewar Pad, 16' x 20', 12" minimum thickness, reinforced concrete.

Met with Dave Phillips to walk thru the plan

New DCM Rack Plumbing

(Not Scheduled Yet)



4 new DCM racks need cooling water plumbing

Other Work

Upgrades Support:

New Beampipe sections (non-Be) (Meeting at CAD tomorrow)

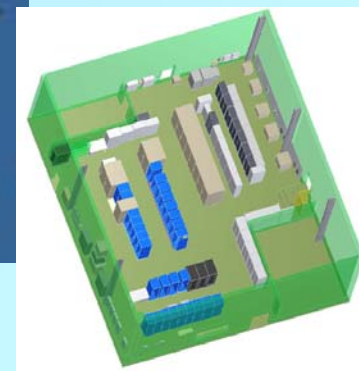
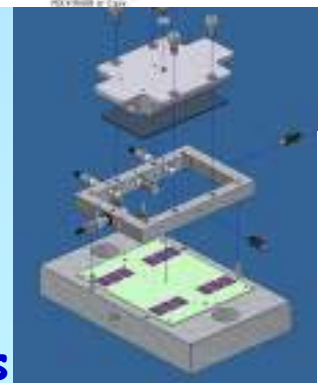
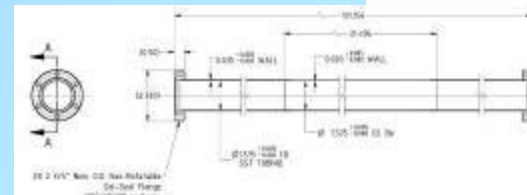
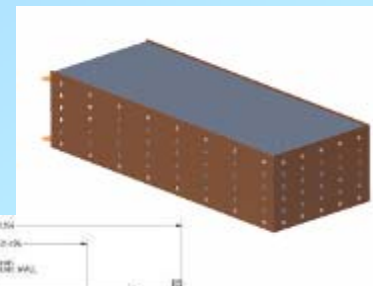
New Beampipe supports

NCC prototype design support

VTX fabrication tooling design

VTX installation design

FVTX design/eng'g support



Summer Sunday Prep

TBD Existing Detector Maint & Repairs

Maintenance & Overhead Tasks

Rack Room Reorganization

C-A-D AC, Water System, Electrical system work which may impact shutdown schedule: *Tasks, schedules, priorities TBD*

2009 Building Maintenance Issues

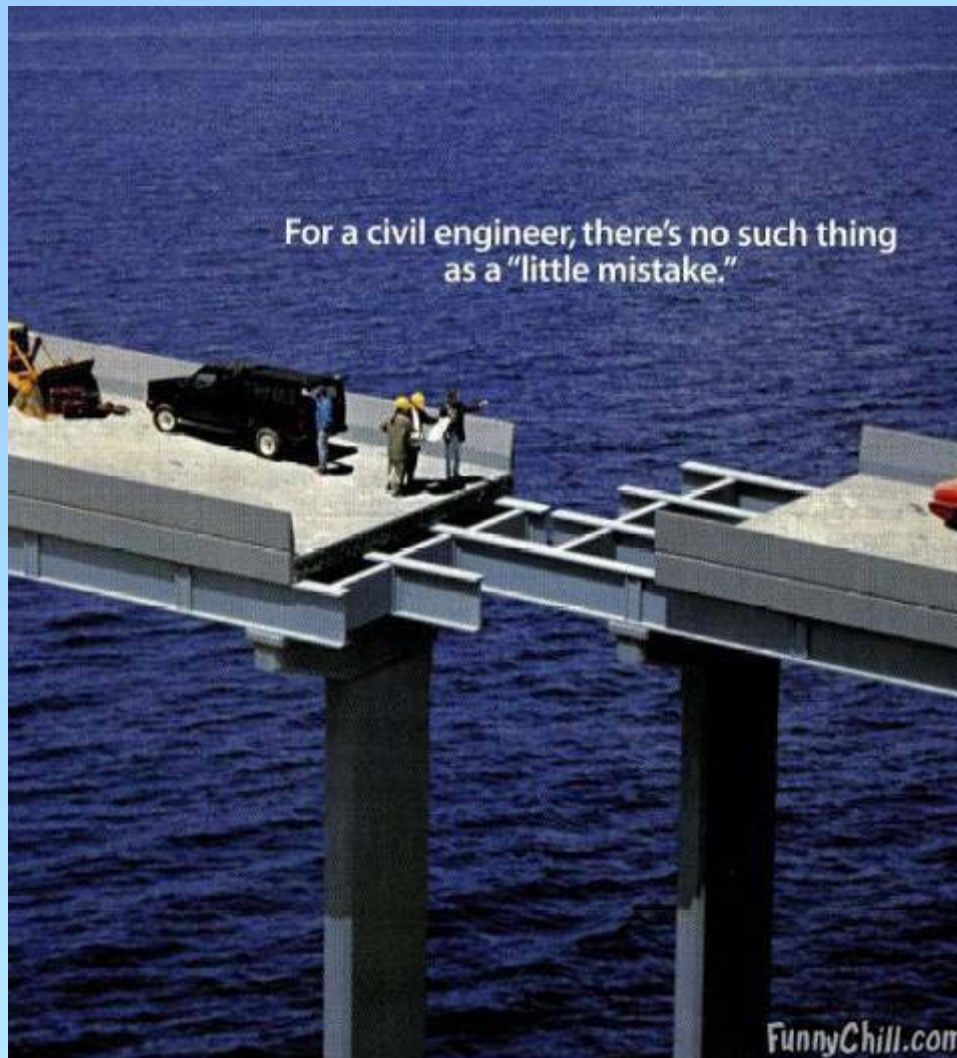
- Roof leaks in utility bathroom at northwest corner behind tech offices and over door between rack room and assembly hall.
- Heat wrap tape for trailer bathroom toilet drains to prevent freeze/clogging in winter.
- Improved Rack Room AC performance (This item has been addressed time and again but unsatisfactorily. Currently the AC fails periodically and is repaired only to fail again. On-condition maintenance is not adequate...an engineered solution is needed.)
- Icy conditions at mixing house north stairs



1. CPR/AED/First Aid Training Done
2. PHENIX Techs: Mid Year Goal Review and R2A2 review. Your revised R2A2's have been placed into your people soft goal. Brefni made standard R2A2's for everyone, I revised them as appropriate, then are ready for your review. People Soft-> Employee Self Service-> Performance -> then either performance goals or Current R2A2. After reviewing contact me to go over them.



We plan so we'll know our limits.



We plan so things come together smoothly, so the PC1 repair doesn't end up like this



We plan to make sure our tools fit the job and we make appropriate use of the space we have to accomplish our objectives, so the RPC project doesn't get delayed because of a problem like this



We plan so that we address all obstacles ahead of time, so the station 2/3 scaffolding doesn't end up like this



We plan to have appropriate labelling so that those who will use the fruits of our efforts later won't be confused and frustrated.



We plan carefully so our efforts don't end up pointless or useless.





We plan so that we don't end up having to work around unanticipated problems.



4/23/2009



And finally, we plan so we don't set ourselves up for disaster

Where To Find PHENIX Engineering Info



Jury Duty For Me Starting Monday...

Unless I Can Weasel out of it



Links for the weekly planning meeting slides, archives of past meeting slides, long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

